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TME-01-001

September 12, 2001



Commissioner of Patents and Trademarks  
Washington, D.C. 20231

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Subject:

Serial No. 09/898,124 07/05/01

Quanbo Zou, Uppili Sridhar,

MINIATURIZED MULTI-CHAMBER THERMAL  
CYCLER FOR INDEPENDENT THERMAL  
MULTIPLEXING

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INFORMATION DISCLOSURE STATEMENT

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Enclosed is Form PTO-1449, Information Disclosure Citation  
In An Application.

The following Patents and/or Publications are submitted to  
comply with the duty of disclosure under CFR 1.97-1.99 and  
37 CFR 1.56. Copies of each document is included herewith.

U.S. Patent 5,939,312 to Baier et al., "Miniaturized  
Multichamber Thermocycler", describes a miniaturized multi-  
chamber thermal cyclers.

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The following three U.S. Patents all discuss early work on multi-chamber thermal cyclers fabricated by silicon etching:

- 1) U.S. Patent 5,639,423 to Northrup et al.,  
"Microfabricated Reactor."
- 2) U.S. Patent 5,646,039 to Northrup et al.,  
"Microfabricated Reactor."
- 3) U.S. Patent 5,674,742 to Northrup et al.,  
"Microfabricated Reactor."

Micro-fabricated PCR reaction chambers (or thermal Cyclers) have been reported in the technical literature by a number of experimenters, including:

- 1) Adam T. Woolley, et al., (UC Berkeley), "Functional Integration of PCR Amplification and Capillary Electrophoresis in a Microfabricated DNA Analysis Device," Analytical Chemistry, Vol. 68, pp. 4081-4086.
- 2) M. Allen Northrup, et al., (Lawrence Livermore National Lab, UC Berkeley, Roche Molecular Systems), "DNA Amplification with a microfabricated reaction Chamber", 7th Intl. conf. Solid-State Sensors and Actuators, pp. 924-926.

- 3) S. Poser, et al., "Chip Elements for Fast Thermocycling", Eurosensors X, Leuven, Belgium, Sept. 1996, pp. 1197-1199.
- 4) Ajit M. Chaudhari, et al., (Stanford Univ. and PE Applied Biosystems), "Transient Liquid Crystal Thermometry of Microfabricated PCR Vessel Arrays", J. Microelectromech. Systems, Vol. 7, No. 4, 1998, pp. 345-355.

Sincerely,



Stephen B. Ackerman,  
Reg. No. 37761

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<sup>ni</sup>Quambo Zou et al.

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Adam T. Woolley, et al., (UC Berkeley), "Functional Integration of PCR Amplification and Capillary Electrophoresis in a Micro-fabricated DNA Analysis Device," Analytical Chemistry, Vol. 68, pp. 4081-4086.

S. Poser, et al., "Chip Elements for Fast Thermocycling", Eurosensors X, Leuven, Belgium, Sept. 1996, pp. 1197-1199.

**EXPLANATION**

DATE COMPLETED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

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## DATE CONSIDERED

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